



Opflow

PRACTICAL IDEAS FOR WATER OPERATORS

DISTRIBUTION Leak Detection Saves Resources

OPERATIONS SCADA Tools Solve Operational Mysteries

SPECIAL SECTION Workforce Management: Leadership, Education, and Retention

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On the Cover: Innovative leak-detection technologies are allowing operators to become more proactive by systematically seeking and abating water leaks in their water distribution systems. Photo courtesy of Pressure Pipe Inspection Co.

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Workforce Management

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Education

Training Employees in Lean Times

The economy is in a downturn, revenues aren't keeping up with expenses, and nobody wants to talk about tax or rate hikes. Contrary to traditional thinking, this is a perfect environment for employee training.

BY WAYNE H. LUDWIG JR.

HARFORD COUNTY (Md.) Water and Sewer Operations developed an in-house training program in 1981, long before in-house training was a line item in most utility budgets. Over the years, HCWSO's training budget has grown from about \$100 annually to more than \$10,000/yr in good economic times.

Recognizing the need for consistent, efficient operations, HCWSO began small informal training classes in the basics of operations and maintenance. Using a 15-by-15 ft office, small blackboard, and discarded or obsolete equipment, plant personnel created their own study materials and handouts for the basic courses.

These humble beginnings have evolved into a formal training program with experienced, certified instructors; laptops and projectors; white boards; TV/VCRs; and a library of VHS tapes, DVDs, and purchased training programs, including numerous AWWA training materials. HCWSO seeks out staff members who want to talk about their jobs and

experiences, stocks up on materials during good times, and makes a lasting commitment to training so the next generation of managers and teachers doesn't have to reinvent the process.

TRAINING DEVELOPMENT

In the early 1980s, HCWSO was a moderately sized plant, distributing about 4 mgd of treated water. But the utility was about to expand in size and technology and faced implementing new Maryland Department of the Environment operator certification regulations. The regulations customized licensing based on facility type and size, rather than size only, and also required training hours in a three-year cycle. All training had to pass MDE criteria before it could qualify for certification. The utility didn't have a formal training budget, and the only available reference materials were the California State Sacramento manuals and various US Environmental Protection Agency, AWWA, and Water Pollution Control Federation periodicals and reference booklets.

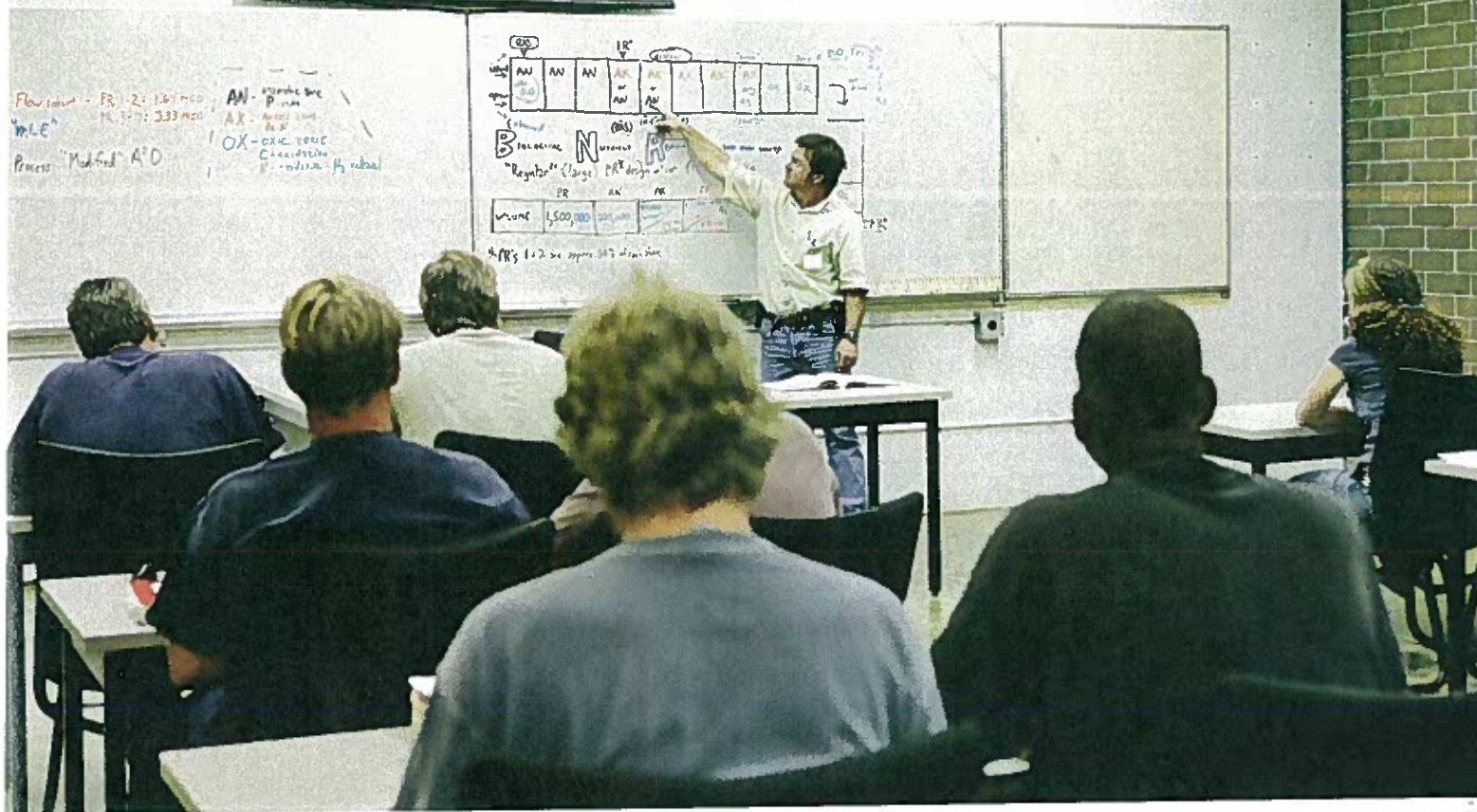
One of the first in-house training courses covered the fundamentals of

installing and operating an activated sludge system. All plant personnel took the Basic and Intermediate Activated Sludge course in two three-hour sessions. An MDE certification training designee was invited to attend the sessions to determine if this was the type of training that would qualify for MDE certification. During the next few years, other small informal classes were developed, and with modest resources, HCWSO acquired additional Sacramento volumes for a basic research library.

By 1985, HCWSO developed new and updated operator series job classification that were adopted by the county's personnel department. A formal career ladder—consisting of Trainee I, Trainee II, Operator, and Senior Operator classifications—was developed, with each step requiring specified experience levels and training programs that closely paralleled MDE's certification and training system. Most of the program still exists, nearly 25 years later.

Besides in-house training, HCWSO sends at least one operator to Maryland's annual short course program,

Training is an essential part of a successful utility's obligation and mind-set.



one-week accelerated program for various water and wastewater subjects tailored for beginners, intermediates, or veterans. In good budget years, the utility sends as many as seven operators at a cost of \$500 each.

During the next decade, as plant personnel far exceeded the state average for passing the certification exam on the first try (75 percent vs. 30 percent), the development plan mushroomed. Planning and executing in-house training became an acceptable and budgeted practice. In addition, the program spurred others to contribute as teacher-trainers.

TRAINING IS A MIND-SET

A training mind-set pervades the utility. As a consequence, several employees have stepped forward to contribute to operator training for the utility, community, and state. Further, operators who benefit from training are motivated to share their experiences with others. HCWSO employees contribute to in-house and community training in numerous ways, including

- teaching and helping to organize the state's short course.

- sharing expertise with plant staff.
- attending professional development seminars.
- contributing at least one key training topic in monthly communications meetings.
- conducting the industrial pretreatment program for the county.
- educating industrial users.
- developing easy-to-understand safety and treatment program presentations.
- developing and executing personnel and budget training.
- organizing and promoting Boy Scout/Girl Scout and school tours of facilities.
- developing a tracking manager to help employees track their training records.

Although HCWSO's resource library has increased steadily over the past 25 years, it still contains old-fashioned VHS tapes and a few overhead projector documents. As with many investments, purchasing these materials is accomplished one fiscal year at a time. In good years, HCWSO can purchase several training programs or DVDs. In lean years, the utility

takes advantage of free training offered by vendors or government agencies.

A RANGE OF RESOURCES

Training is an essential part of a successful utility's obligation and mind-set. Budgeting for such training is always a challenge, especially in lean years and particularly in a local government.

Small- to medium-size utilities can benefit by taking advantage of many in-house training resources, including cultivating their internal talent pool; purchasing relatively inexpensive programs or videos from organizations such as AWWA; researching free materials, references, and information on the Web, including the US Environmental Protection Agency Web site (www.epa.gov); and creating custom versions of key plant-specific materials using Powerpoint presentations, videos, digital photos, or an old-fashioned blackboard. Consistent investment in employee training programs each year—no matter how small one year's contribution may be—results in a recession-proof training program when the hard economic times hit.